Andrew Chu

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EDUCATION

University of Waterloo	Expected Dec. 2028
Bachelor of Computer Science - Honours Co-op Program - Dean's Honours List	*Waterloo, ON*

SKILLS

Languages: Java, Python, C/C++, JavaScript, CSS, HTML, TypeScript, Go, Dart, Sass, Racket
Frameworks: React, Flask, TailwindCSS, SvelteKit, Firebase, Express.js, MongoDB, Mocha, FastAPI, Next.js
Developer Tools: GCP, Linux, Git, GitHub, Node, Figma, Docker, AWS, VS Code, Postman, MySQL, WSL

EXPERIENCE

Data Engineer Intern — Aug. 2024 - Sep. 2024
Alljoined — *Toronto, ON*

- Responsible for data preprocessing, brainwave data collection pipeline, and quality validation of collected data
- Identified a crucial timing issue in EEG data preprocessing by implementing a benchmarking system in **Python**
- Refactored **WebSocket** code to optimize data collection performance by **99%**, reducing latency to **10 ms.**
- Denoised collected data by performing artifact correction using **NumPy**, **Pandas**, and **scikit-learn** libraries

Full-Stack Developer — Sep. 2022 - Jan. 2023
Digitera Interactive — *Ottawa, ON*

- Contributed to the "Skule News" project, a school news app to streamline communication among students
- Reduced frequency of in-app crashes by **20%** by resolving **6+** bugs resulting from incorrect **Firebase** queries
- Engineered image preview feature when uploading or editing articles in **Flutter**, enhancing user experience
- Designed and tested **Firebase Rules** to provide secure database access for a role-based access control system

Logistics Lead — Sep. 2023 - Jun. 2024
YRHacks — *Richmond Hill, ON*

- Coordinated logistics for a 24-hour hybrid hackathon, accommodating **300+** high school participants
- Ensured seamless event execution by managing event communication between hackers, volunteers, and the team
- Mentored 10+ participants in **Pygame** and **Python**, enhancing their coding skills and project outcomes

PROJECTS

andrewchu.ca | *Next.js, TailwindCSS, React, Vercel, JSON Web Tokens* — Jan. 2025

- Developed a personal portfolio website showcasing 16+ projects with project tag filtering and keyword search
- Boosted page load performance by 300 ms. using prerendering, lazy loading, and view transitions API
- Engineered secure password-protected routes using server-side components, server actions, and **JWT** tokens

EasyMeet | *React, Firebase, TailwindCSS, Mocha, GitHub Actions, CI/CD, Figma* — Jan. 2025

- Developed and shipped a no-password mobile-first meetup scheduling website in **React**, deployed at **easymeet.ca**
- Designed and tested NoSQL **Cloud Firestore** to protect user data from illegitimate database read and writes
- Automated **CI/CD** unit testing and deployment with build caching using **Mocha**, **Chai** and **GitHub Actions**

Workout Tracker | *MongoDB, Express.js, React, Node, JavaScript, JSON Web Tokens* — Dec. 2024

- Developed a workout tracker full-stack application that allows users to log their workouts and track their progress
- Architected scalable REST API backend with **MVC** pattern, integrating **JWT** for authentication and validating CRUD endpoint reliability with **Postman**
- Developed modular and maintainable React components using context providers, custom hooks, and reducers, enabling scalable future development

The Spyglass Website | *SvelteKit, TypeScript, TailwindCSS, GitHub* — Jul. 2024

- Redesigned school magazine website with responsive web design principles for sharing and hosting 30+ articles
- Optimized site accessibility, raising lighthouse score to 100 using human-interaction concepts such as Fitt's Law

Eyedentify | *Python, Flask, React, MediaPipe, RESTful APIs* — Mar. 2023

- Developed a facial recognition attendance tracker capable of labeling multiple people from a single picture
- Achieved **2nd Place Overall** and **"Best Web App"** at YRHacks 2023 among **350+** participants
- Implemented a REST API using **Flask** to analyze photos sent from a responsive **React** dashboard application